PATENT

ATTORNEY DOCKET NO.: DWP-P-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Marc Christian Davis	)	
	)	Examiner: Graham, Mark S
Serial No.: 10/606,987	)	
	)	Art Unit: 3711
Filed: June 26, 2003	)	
	)	Deposit Acct. No.: 503176
Title: Laminated ball bat with engineered Sweet spot zone and method of making Same	)	

Commissioner of Patents
P. O. Box 1450
Alexandria, VA 22313-1450
Dear Sir/Madam:

Reply Brief

In response to the Examiner's Answer dated February 12, 2007, this Reply Brief pursuant to 37 C.F.R. §41.41 is submitted. A list of the various sections contained in this reply is provided below.

(1) STATUS OF CLAIMS

The Examiner's corrected description of the status of the claims presented in the Examiner's Answer is correct.

(2) ARGUMENT

Bender et al.

The Examiner states that "[a]ppellant's first argument, (page 11 first paragraph) is that the Bender reference only teaches a bat with an inner layer formed from thin lamina and two outer layers of a single thick lamina."[1] In the interest of clarifying any misunderstanding and maintaining a accurate record, it is respectfully submitted that Applicants do not believe that Applicants have ever taken the position that the Bender teachings of forming the outer laminas of a single thick lamina has any relevance to the patentability to the Applicants' claims. Applicants certainly do not do so in the Appeal Brief and on page 11 where Applicants simply state the Bender teachings.

Weight Distribution and "Different Density" and "Predetermined"

Next the Examiner states that:

> The next substantive argument advanced by appellants is that Bender does not disclose the use of different types of material to form the lamina for the inner and outer layers of the bat. In response the examiner simply notes that such is not being asserted by the examiner. Had it been the instant rejections would have been based on anticipation and not the combination of Bender and Smith . . . . [Examiner Answer P7]

Applicants appreciate the difference between an anticipation rejection under 35 U.S.C. §102 and obviousness rejection under 35. U.S.C. §103(a). Applicants simply state the fact that the

[1] Examiner's Answer at 7, first Paragraph (February 12, 2007).

Examiner's rejection is based on obviousness, and thus, the Examiner concedes that there are deficiencies in the Bender teachings that prevent Bender alone from being a proper basis for rejecting the Applicants' claims. Applicants further contend that none of the secondary references cure such deficiencies.

The Examiner contends that, "Bender discloses the claimed device with the exception of the use of different first and second materials to obtain the different densities."[2] The Applicants respectfully traverse such a position.

The Examiner is correct in saying that Bender does not disclose or teach using different first and second materials to obtain different densities. But such a position does not fully appreciate the difference between the Bender and the Applicants' teachings. First, more actually stated, Bender does not teach forming a bat having different densities as taught and claimed by the Applicants'. Second, the Examiner has failed to show where Bender provides any teachings relating to selectively positioning a bats sweet spot zone by forming portions of a bat with ***materials*** having different densities (and associated weights).

First, the Examiner states:

> As to the use of "different" materials, one could arguably state that Bender does teach different materials just by virtue of their having different densities. However, because the appellant intends "different" to connote materials of different matter the examiner has cited the Smith reference. . . .[3]

Applicants respectfully submit that the opposite is true. The Bender and Applicants' teachings relating to bat portions of different densities are materially different. It is a fact that Bender teaches using only one type of wood to form the Bender bat. It is also a fact that no wood has perfectly uniform attributes (such as density). Bender teaches testing each piece of wood to

---

2 Examiner's Answer at 4, first full paragraph (February 12, 2007).
3 Examiner's Answer at 8, first paragraph (February 12, 2007).

detect the relatively small variations in density that is present in all wood types and separates the relatively lower density wood from the relatively higher density wood.[4] The two groups of wood are then used to form different potions of the Bender bat.

While it could be said that Bender teaches forming different sections of a laminated bat with wood having different densities as the term "different densities" is defined by Bender, it is not true that Bender teaches forming different sections of a laminated bat with wood having different densities as the term "different densities" is defined by the Applicants'. According to the Applicants' teaching, while two pieces of the same type of wood (e.g. to pieces of oak wood) may have relatively small variations in density, such small variations are considered substantially equal. Thus, it is respectfully submitted that after a full reading of the Applicants' specification, one of ordinary skill in the art would conclude that the Applicants' consider small variations in density present in all wood as being no variation. Thus, as taught and claimed by the Applicants', the Bender bat has uniform density as it is formed using only one material. Consequently, it is respectfully submitted that not only does Bender not teach forming different bat sections with different materials Bender teaches a bat having uniform density (as defined by the Applicants).

Second, the Examiner has failed to show where Bender (or any cited reference) provides any teachings relating to selectively positioning a bats sweep spot zone or center of mass using any method and certainly not by forming portions of a bat with ***different materials*** having different densities (and associated weights). Indeed, the Bender invention (as well as all cited

---

[4] Bender et al. at C4, L7-L14. [Having determined the density or other indicator of quality of each individual initial lamina pieces, the initial lamina are then segregated into two groups. A first group, having ***relatively lower density*** or other indicator of quality, will be segregated for use in the construction of the lateral portions of the bat's barrel, and will be referred to as outer lamina. A second group, having ***relatively higher density*** or other indicator of quality, will be segregated for use in the construction of the bat's handle and the central areas of the bat's barrel, and will be referred to as inner lamina.]

secondary references) is directed to a plurality of issues none of which are specifically directed to a bat's sweet spot zone.

Bender teaches that a "primary advantage" of the Bender invention is the forming a laminated bat "where the inner layer is typically formed of wood of a superior grade and strength to that of the outer layer, and particularly having a superior modulus of elasticity."[5]

Bender further teaches that another advantage of the present invention is to provide for a bat "wherein an inner layer is formed of a plurality of thinner inner laminas and each outer layers is typically formed from a single thicker outer lamina, thereby focusing the strength improvement in the handle and area between the handle and barrel that is most likely to break."[6]

Bender does not address the issue of selectively positioning a bat's sweet spot zone by forming portions of a bat with materials having different densities (and associated weights) and it is respectfully submitted that Bender does not teach or claim such a bat. Indeed, since the Bender bat is designed to address a set of issues not related to the issues the Applicants' claimed invention addresses, one should not be surprised to find the Bender teachings are not consistent with the Applicants' claimed invention.

Next, the Examiner advances the following position:

> . . . when one manufactures a bat as disclosed by Bender, one is choosing lamina of particular densities to form the bat and is selecting denser lamina for the medial portion of the bat. Prior to machining the bat one is also deciding, or predetermining, what they desire the outer shape of the bat to look like to satisfy a particular customer. In taking these steps one is inherently manufacturing a bat which has a predetermined "sweet spot zone" or "center of mass." This is all that the claims require.[7]

---

5 Bender et al. at C2, L49-L51.
6 Bender et al. at C2, L61-L65.
7 Examiner's Answer at 7, last paragraph, (February 12, 2007).

It is respectfully submitted that such a position does not fully appreciate the Applicants' claimed invention.

First, as noted above, one could advance the position that the Bender bat has uniformed density as defined by the Applicants as Bender only uses one type of material.

Second, in the alternative, according to the Bender teachings, the outer laminas of the Bender blank (the blank is machined into a bat) are always formed using wood having ***relatively lower density*** (or other indicator of quality), while the construction of the inter laminas are formed of the same type of wood having ***relatively higher density*** (or other indicator of quality).[8] Such a blank is then machined into the Bender bat. Since the Bender blank sections run the full length of the blank and since the outer laminas have the same density (as they come from the same group of wood), a density that is only relatively lower (not significantly lower) than the density of the inter lamina, the only way to significantly vary the weight distribution of the Bender bat is to machine the blank differently.

For example, predefine a desired bat shape and form five blanks using the Bender teachings and manipulate the blank density anyway desired according to the Bender teachings. Next, machine such blanks into a bat consistent with such predefined desired bat shape. The weight distribution, and thus, sweet spot zone locations will be substantially equal for all five bats. Additionally, Bender does not teach or disclose how one could vary such weight distribution without varying the shape of the bat.

In stark contrast, using the same predefined desired bat shape as used above, one can form five blanks according to Applicants teachings and machine such blanks into a bat where each bat has a substantially different weight distribution (and sweep spot zone location). Such is true because the Applicants teach and disclose a bat having at least two bat portions that are

---

[8] Bender et al. at C4, L7-L14.

inherently different in density of a magnitude great enough to materially affect a bats weight distribution. Restated, the Applicants teach a bat comprising two bat portions so that the density of a first portion, the density of a second portion, the location of said first portion, and the location of said second portion may be selected to provide for a bat having a center of mass located between a predefined first-point and a predefined second-point for a predefined bat shape. It is respectfully submitted that none of the secondary references teach or disclose how to modify the Bender teachings to achieve the Applicants' bat without reading the Applicants' teachings and then using hindsight.

Lamina Thickness

The Applicants' claim 6, 7, 18, and 19 inventions require the thickness of the plurality of thin strips to be "about $1/32^{nd}$ (0.03125 inches) of an inch to about $1/12^{th}$ (0.08333 inches)." For claims 6, 7, 18, and 19, the selection of the lamina thicknesses is not simply a matter of preference to be arbitrarily selected at the whim of the bat designer.

The Examiner contends that for the Bender bat, "the inter lamina are of the claimed thickness."[9] Bender does not specifically teach using laminas that are within the above identified claimed thickness. Bender teaches a preferred embodiment thickness that is three (3) to eight (8) times greater than Applicants'. While Bender does state that thinner strips could be used, Bender gives no guidance as to how much thinner and certainly does not teach strips that are three to eight times thinner.

After a careful review of the Applicants' teachings, one of ordinary skill in the art will appreciate that using thinner laminas provides more weight distribution resolution. Stated differently, using thinner laminas provides more opportunity to vary the weight of a particular

[9] Examiner's Answer at 5, second full paragraph (February 12, 2007).

bat portion, a quality Bender does not address. Such is to be expected since the Bender invention does not to address the same issue as the Applicants' invention addresses.

"Apart" Limitation

Applicants' claimed 5 and 17 inventions require the first and second bat portions having different densities (and associated weights) to be positioned apart from one another.

The Examiner presents a string of three references (Bender, Smith and Cook) as a basis for rejecting the claims containing the "apart" limitation (claims 5 and 17). As previously stated, it is true that Cook teaches forming the barrel end of a bat using soft wood to reduce shock and slide-off spin when the ball is hit on the barrel end of the bat. If the Applicants were simply claiming a laminated bat where the barrel end of the bat were constructed of low density wood to reduce spin-off, the Cook reference would be relevant to the patentability of such a claim. However, when considering issues of obviousness, one must consider the claimed invention as a whole[10]. The Applicants claim a laminated bat comprising two bat portions having different densities and positioning such bat portions apart from each other to strategically position the bat's sweet spot zone and/or center of mass for a predefined bat outline. When the Applicants' claimed invention is viewed as a whole, Cook provides no such teachings and neither does Bender or Smith.

[10] McGinley v. Franklin Sports, Inc., 01-1113 (Fed. Cir. Aug. 21, 2001) ["A patent is invalid for obviousness if 'differences between the subject matter sought to be patented and the prior art are such that the subject matter ***as a whole*** would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.' 35 U.S.C. § 103(a) (1994).]" (emphasis added)

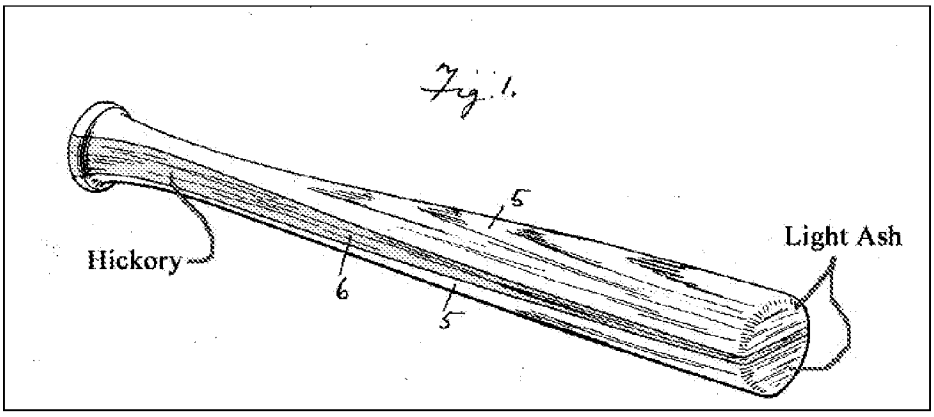
Length of Laminas

Regarding the "length of the initial wood laminas" (the laminas used to form a blank that is machined into a bat), the Examiner presents the argument that Bender uses "exactly the same method by which appellants form their bat. Note page 17, first paragraph of appellants' specification."[11] The Examiner may be correct for the exemplarily embodiment of the Applicants' invention being described in that section of the Applicants' specification. However, that is not the embodiment being claimed for the claims at issue in this appeal. The Applicants respectfully submit that Fig. 10 is a more relevant exemplarily embodiment of the Applicants' claimed invention at issue in this appeal.

[11] Examiner's Answer at 8, last paragraph (February 12, 2007).

The "Smith" Reference and "Good Balance"

The Examiner contends that Smith "concerns using different lamina in a bat of different density with the denser layer in the medial portion of the bat and the lighter layers in the outer portion of the bat, to help give the bad a desired balance."[12] See image below.



It is respectfully submitted that the Examiner's description of the Smith teachings concerning manipulating the "balance" of the Smith bat is not entirely complete. Consider the following teachings from Smith:

> strength. The hickory insert is inlaid about one-eighth of an inch at the large end of the bat or batting end and tapering back to about three quarters of an inch or larger at the handle making a very strong bat, and also 45 brings the weight of the bat back to the handle or batter, thereby providing a good balance.

Smith, Page 2, Column 2

Thus, Smith teaches "tapering" the denser center section (6) to manipulate the balance of the Smith bat. It is the tapering of the more dense section that changes the balance of the bat, not simply the positioning of section (6) or the fact that section (6) has a different density compared

[12] Examiner's Answer at 9, first paragraph (February 12, 2007).

to sections (5). Such teachings do nothing to make the Applicants' claimed invention obvious without reading the Applicants specification and using hindsight.

Based on the above arguments, Applicants respectfully request favorable action and withdrawal of the present rejections for all claims. Please charge any additional fees required by this Amendment to Deposit Account No. 503176.

Respectfully submitted,

February 25, 2007	/ William Monty Simmons /
Date	William Monty Simmons Reg. No.: 53,910 Simmons Patents P.O. Box 1560 Lenoir, NC 28645 (828) 757-9689